

ABSTRACT

Methods and systems for exchanging energy reversibly between inertial and rotating forces with a masstubarc flow siphon by non-partitioning mass flow movement are disclosed. Energy can be exchanged reversibly between inertial and rotating forces utilizing a specific geometric design that preserves longitudinal molecular connectivity. A reversible masstubarc flow siphon can be configured as a symmetric interface for the contention of mass as linear in an inertial force zone and as arc in a rotating force zone. The arc section reversibly and gradually transfers the energy between linear and rotating motions. A geometric design allows a reversible masstubarc flow siphon to function like a rotating pump that adds kinetic and/or mechanic energy to the mass. If the device changes its rotating direction, the mass flow can also change direction, thereby reversibly moving the mass. Similar to a turbine collecting energy, if the moving mass possesses a high level of inertial energy, the energy can be transferred to the rotating device in a reversible mass direction.